

GARDEN WAY

by **TROY-BILT®**

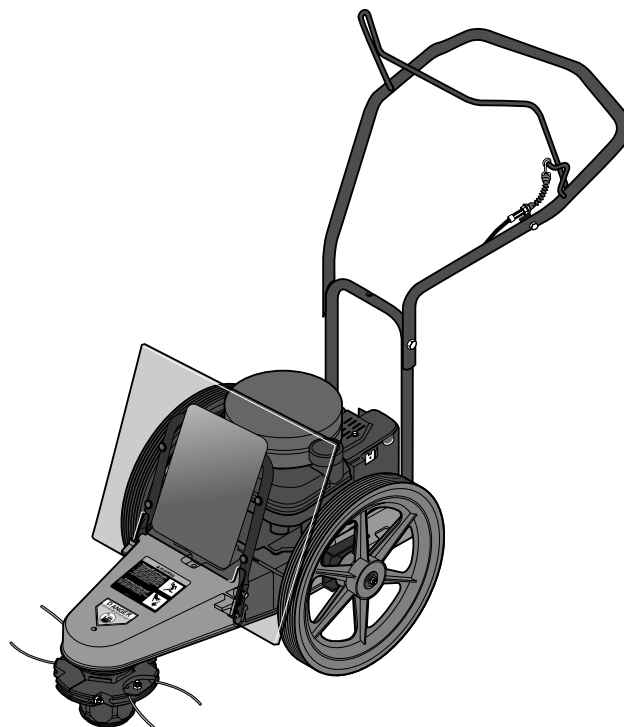
Owner's Manual Trimmer/Mower

- Safety
- Assembly
- Features/Controls
- Operation
- Maintenance
- Parts List

Models

52051– 4HP Std.

52052– 4.5 HP Elec.



(Recoil Start Model Shown)

Dear Owner:

You now own one of the finest trimmer/mowers available. It was designed to easily handle a wide variety of trimming, mowing and clearing chores. You will find the Trimmer/Mower to be an invaluable tool in caring for your property.

Please carefully read this Manual which tells you how to safely and easily assemble, operate, and maintain your machine. *Be sure that you and any other operators carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.*

Of course, if you should ever have any problems or questions, please contact your local authorized service dealer or call the Factory.

We want to be sure that you are completely satisfied at all times.

Note: Be sure to fill out and return the Warranty Registration Card that was supplied with this Manual.

**See Back Cover for
Customer Service Information.**

Safety Alert Symbol



This is a safety alert symbol. It is used in this manual and on the unit to alert you to potential hazards. When you see this symbol, read and obey the message that follows it. Failure to obey safety messages could result in personal injury or property damage.

Table of Contents

SECTION 1: SAFETY	1
General Operation	1
Slope Operation	2
Children	2
Service	2
Safety Decals	3
SECTION 2: ASSEMBLY	4
Inspection After Delivery	4
Step 1: Unpack, Check Contents	4
Step 2: Install Handlebars	4
Step 3: Add Motor Oil	5
Step 4: Connect Battery Wires/Charge Battery	5
Step 5: Check Trimmer Head Hardware	5
SECTION 3: FEATURES AND CONTROLS	6
SECTION 4: OPERATION	7
Pre-Start Checklist	7
Fill Fuel Tank	7
Adjust Handlebar Height	7
Adjust Cutting Height	8
Using the Trimmer Head Control Bail	8
Operating the Trimmer/Mower	9
Trimming and Mowing Techniques and Tips	10
SECTION 5: MAINTENANCE/REPAIRS	11
Required Maintenance Schedule	11
Adjusting Trimmer Head Engagement	12
Removing and Replacing the Trimmer Head	12
Inspecting/Replacing the Drive Belt	13
Belt Performance Troubleshooting	14
Cleaning and Debris Removal	14
Changing Trimmer/Mower Lines	15
Cleaning the Engine Foam Debris Filter	16
General Lubrication	16
Compact Storage	16
General Engine Maintenance	16
Off-Season Storage	16
Battery Recharging	17
Battery Replacement	17
Troubleshooting	18
PARTS LIST	19 - 25
CUSTOMER SERVICE INFORMATION	Back Cover



WARNING

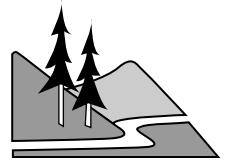
The engine exhaust from this product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

Section 1 Safety

SPARK ARRESTER WARNING TO RESIDENTS OF CALIFORNIA AND SEVERAL OTHER STATES

Under California law, and under the laws of several other states, you are not permitted to operate an internal combustion engine using hydrocarbon fuels on any forest covered, brush covered, or grass covered land, or on land covered with grain, hay, or other flammable agricultural crop, without an engine spark arrestor in continuous effective working order.

The engine on your power equipment, like most outdoor power equipment, is an internal combustion engine that burns gasoline, a hydrocarbon fuel. Therefore, your power equipment must be equipped with a spark arrestor muffler in continuous effective working order. The spark arrester must be attached to the engine exhaust system in such a manner that flames or heat from the system will not ignite flammable material. Failure of the owner/operator of the equipment to comply with this regulation is a misdemeanor under California law, and may also be a violation of other state and/or federal regulations, laws, ordinances, or codes. Contact your local fire marshal or forest service for specific information about what regulations apply in your area.



IMPORTANT

Safe Operation Practices for Walk-Behind Mowers

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

I. General Operation

1. Read, understand, and follow all instructions on the machine and in the manuals. Be thoroughly familiar with the controls and the proper use of the equipment before starting.

2. Do not put hands or feet near or under rotating parts. Keep clear of the rotating trimmer head and line at all times.



3. Only allow responsible adults, who are familiar with the instructions, to operate the trimmer/mower. Never let children or untrained adults operate this equipment.

4. Inspect the area where the trimmer/mower is to be used. The equipment can propel small objects at high speed, causing personal injury or property damage. Clear the area of objects such as rocks, toys, wire, bones, sticks, etc., which could be picked up and thrown by the trimmer line.

5. Be sure the area is clear of other people (particularly small children and pets) before mowing. Stop trimmer/mower if anyone enters the area. Keep bystanders at least 50 feet from the area of operation.



6. Do not operate the trimmer/mower when barefoot or wearing open sandals. Always wear substantial footwear.

7. Wear appropriate clothing such as a long-sleeved shirt or jacket. Also wear long trousers or slacks. Do not wear shorts.

8. Do not wear loose clothing—it could catch in the equipment.

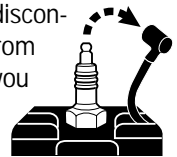
9. Do not mow in reverse unless absolutely necessary. Always look down and behind before and while moving backwards.

10. Do not operate the trimmer/mower without proper guards, plates, or other protective safety devices in place.

11. Refer to provided instructions for proper operation and installation of accessories. Only use factory-approved accessories.

12. Stop trimmer head when crossing gravel drives, walks, or roads. Wait for trimmer lines to stop.

13. Stop engine and disconnect spark plug wire from spark plug whenever you leave the unit, clean the equipment, or replace trimmer line. Remove the key on electric start models.



14. Wait until the trimmer head comes to a complete stop, shut the engine off, and disconnect the spark plug wire before installing or removing trimmer line. Be sure trimmer head is securely attached before operating equipment.

15. Mow only during daylight hours or when good artificial light is available.

16. Do not operate the trimmer/mower while under the influence of alcohol or drugs, or when tired or ill.

17. Never operate this equipment in wet grass. Be sure of your footing; keep a firm hold on the handlebar and walk; never run.

18. Release trimmer head control bail before starting engine.

19. If the unit starts to vibrate abnormally, stop the engine and disconnect the spark plug wire. Check immediately for the cause. Vibration is generally a warning of trouble.

Section 1: Safety

20. Always wear approved safety goggles or safety glasses with side shields when operating equipment. The use of any powered machine can result in foreign objects being thrown by high-speed rotating parts which can cause personal injury or property damage. Stay away from glass and other easily thrown or breakable objects.

21. Wear work gloves and sturdy footwear when using this equipment. Leather work shoes or short boots are ideal. They protect ankles and shins from rocks, pebbles, splinters, etc.

22. It is advisable to wear protective headgear to prevent the possibility of being hit by small flying particles, etc.

23. Before each use, inspect the throttle control lever and cable (if so equipped). Make sure the cable is free and the lever functions properly.

24. Watch for traffic when near or when crossing roadways.

25. Never attempt to carry children or other passengers on the equipment. They could fall off and be seriously injured, or they could interfere with safe operation of the equipment.

26. The mower is equipped with a plastic debris shield in front of the engine and a rubber debris flap under the frame. They must be in place and working properly. Never remove or cause the debris shield or debris flap to cease working. If either of these parts is missing or not working properly, do not use the equipment until this situation is corrected.

27. Be aware of where the trimmer/mower is discharging materials and do not point the discharge at anyone.

28. Never run the engine in an enclosed area. Engine exhaust contains carbon monoxide, a deadly gas that is odorless, colorless and tasteless. Always run the engine outdoors where there is adequate ventilation.

29. Slow down before turning.

30. Shut off engine when not trimming or mowing.

31. Use extra care when loading or unloading machine into a trailer or truck.

32. Use this equipment for its intended purpose only.

33. Always make sure the handlebars are tight and comfortably positioned.

They should never be in an awkward position for the operator.

II. Slope Operation

Slopes are a major factor related to loss of control and tip-over accidents which can result in severe injury or death. All slopes require extra caution. If you can not back up the slope or you feel uneasy on a slope, do not mow it.

DO:

Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes. Avoid slopes greater than 15°.

Remove objects such as rocks, tree limbs, etc.

Uneven terrain could overturn the machine. Watch for holes, ruts, or bumps. Tall grass can hide obstacles.

Use slow speed.

Use extra care with grass catchers or other attachments. These can change the stability of the machine. Keep all movement on the slopes slow and gradual.

Avoid starting or stopping on a slope.



DO NOT:

Do not mow near drop-offs, ditches, or embankments. You could lose footing or balance.

Do not mow on very steep slopes.

Do not mow on wet grass. Slippery footing can be hazardous.

III. Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the trimmer/mower and the mowing activity. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under the watchful care of a responsible adult.
2. Be alert and turn trimmer/mower off if children enter the area.
3. Before and while moving backwards, look behind and down for small children.
4. Never allow children to operate the mower.
5. Use extra care near blind corners, shrubs, trees, or other objects that may obscure vision.
6. Never carry children, even with the trimmer head stopped. Children may fall off and be seriously injured or interfere with safe machine operation.
7. Do not allow children nearby if you are working.

IV. Service

1. Use extra care in handling gasoline and other fuels. They are flammable and their vapors are explosive. To help prevent a fire or explosion:
 - a) Use only an approved container.
 - b) Never remove gas cap or add fuel when the engine is running. Let engine cool before refueling. Do not smoke.
 - c) Never refuel the machine indoors. Fill the fuel tank outdoors and with extreme care.
 - d) Never store the machine or fuel container inside where there is an open flame, such as a water heater, etc.
 - e) Replace caps on the fuel tank and fuel container and clean up spilled fuel before starting engine. Move machine away from any gasoline fumes before starting the engine.
 - f) Keep matches, smoking materials, open flames, and sparks away from the fuel tank and fuel container.
 - g) Leave 1/2" air space at the top of the fuel tank to allow for fuel expansion.

Section 1: Safety

2. Never run the engine inside a closed area.
3. Never clean, make adjustments or repairs with the engine running. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting. Remove key on electric start models.
4. Keep all nuts and bolts tight, especially the trimmer head attachment bolts, and keep equipment in good condition. Check mounting hardware on trimmer head every time you change trimmer line and prior to each use.
5. Never tamper with safety devices. Check their proper operation regularly.
6. To reduce fire hazard, keep mower free of grass, leaves or other debris build-up. Clean up oil or fuel spills. Let machine cool before storing.
7. After striking an object, stop the engine and disconnect the spark plug wire. Inspect the trimmer/mower and repair, if necessary, before restarting.
8. Never make adjustments or repairs while engine is running.
9. Components subject to wear, damage and deterioration could expose moving parts or allow objects to be thrown. Frequently check components and replace with factory recommended parts, when necessary. Regularly inspect the trimmer head

and debris shield. Make sure they are not bent, damaged, or loose.

10. Only use eighteen-inch long .130" or .155" diameter trimmer line. Never use other lengths, diameters or material as trimmer line.

11. Trimmer line moves at high speed and can cut. Always stop the engine and let all moving parts stop before replacing the trimmer lines. Let the engine cool.



12. Do not change the engine governor setting or overspeed the engine. The governor controls maximum safe operating speed and protects the engine and all moving parts from damage caused by overspeed. Authorized service shall be sought if a problem exists.

13. Do not touch engine parts which may be hot from operation. Allow parts to cool completely before inspecting, cleaning or repairing the unit.

14. Maintain or replace safety and instructional decals. Refer to the separate Parts Catalog for replacement decal information.

15. For units equipped with electric start:

- a) Batteries produce explosive gases. Keep sparks, flame,

cigarettes, etc., away. Ventilate the area when charging the battery. Do not charge the battery in an airtight space.

- b) Do not use a battery charger other than the one provided to you.
- c) The battery contains toxic materials. Do not damage the battery case. If the case is broken or damaged, avoid contact with the battery contents.
- d) Properly dispose of a damaged or worn out battery. Check with local authorities for proper disposal methods.
- e) Do not short circuit the battery. Severe burns and fire can result.

16. Use only original-equipment replacement parts. Parts manufactured by others could present safety hazards and affect performance even though they may fit on this trimmer/mower.

17. Remember— the end of the season is a good time to inspect equipment prior to storage.

18. To guard against engine overheating, always have the engine debris filter mounted and clean.



At top of clear plastic shield facing operator



On left handlebar

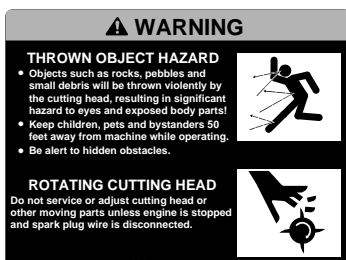
Safety Decals

Make certain that all safety decals on this equipment are kept clean and in good condition. The decals are shown (at reduced sizes) below. If you need a replacement decal, please refer to the Parts List in this Manual.

SEE SAFETY INSTRUCTIONS UNDER DEBRIS SHIELD
To open, pull up debris shield, then tip forward.



At top of debris shield brace



At front of deck



At rear of deck housing on left side



At rear of deck housing on right side



At front of deck

Section 2 Assembly



WARNING

To prevent personal injury or property damage, do not attempt to start the engine until all assembly steps are complete and you have read and understand all of the safety and the operating instructions in this Manual.

Introduction

Carefully follow these assembly steps to correctly prepare your machine for use. It is recommended that you read this section in its entirety before beginning assembly.

NOTE: If an assembly step applies only to certain models, those models are noted at the beginning of that step. Otherwise, a step applies to all models.

Inspection After Delivery

Inspect your machine immediately after it has been delivered. Make sure that neither the carton nor the contents have been damaged.

If you find or suspect any damage, contact the carrier (trucking company) right away. Inform them of the specific damage and that you wish to file a claim. To protect your rights, be sure to put this in writing to the carrier within 15 days after your machine arrives. Please let us know if you need assistance with this matter.

IMPORTANT: Motor oil must be added to the engine before starting. The correct procedure for adding motor oil is explained in this Section.

Tools/Supplies Needed:

- One Utility Knife or Scissors
- Two 1/2" wrenches
- SAE 30 weight motor oil
- Unleaded gasoline

STEP 1: Unpack, Check Contents

Remove and discard all protective packaging material (plastic film and cardboard) from the handlebars and the machine. Be sure to remove the handlebars from the insert and carefully (do not crimp the attached cable) put them aside before removing the unit from the bottom of the packaging. Then compare the parts inside the shipping carton with the following list (items with an asterisk [*] are packaged separately within the carton).

All Models:

- Trimmer/Mower Assembly (A, Fig. 2-1)
- Extra Trimmer Line - 6 pieces of green, heavy-duty .130" diameter and 6 pieces of red, extra-heavy-duty .155" diameter (B, Fig. 2-1).
- Safety goggles* (not shown)
- One plastic cable tie * (not shown)
- Two Hex Hd. Screws *, 5/16-18 x 2 (not shown)
- Two Locknuts *, 5/16-18 (not shown)

Electric Start Model Only:

- Battery (on unit, C, Figure 2-1).
- *Two ignition keys
- *One battery recharger

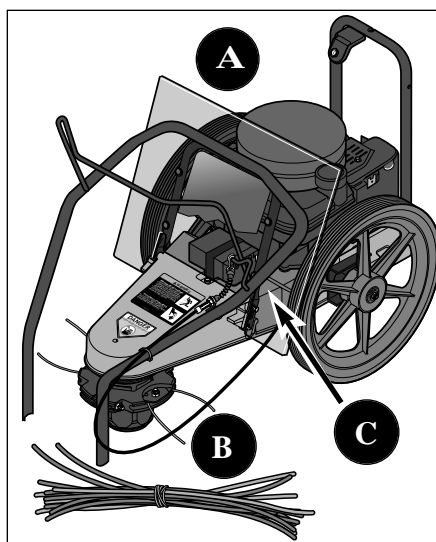


Figure 2-1 (electric start model shown).

STEP 2: Install Handlebars

NOTE: Do not pinch any cables while unfolding and securing the handlebars.

IMPORTANT: Adjust the handlebars as close as possible to waist level so arms are at a comfortable height. This lessens pressure on the mower wear cup, making the unit easier to roll and reducing wear on the wear cup.

A. Cut the plastic tie and remove the tape that secures the control bail (G, Fig. 2-2) to the handlebar (A).

B. Using care not to pinch the attached cable, lift the handlebars (A, Fig. 2-2) to rear of the unit and align the handlebar ends with the handlebar support (B).

C. Route the cable (C, Fig. 2-2) to the outside of the handlebars.

D. Select either the low or high height setting holes (most people prefer the low setting) in the handlebar legs and attach the handlebars with the two screws (D) and locknuts (E) from the hardware bag. Use two 1/2" wrenches.

E. Use the cable tie (F, Fig. 2-2) from the hardware bag to secure cable (C) to handlebar at the location shown.

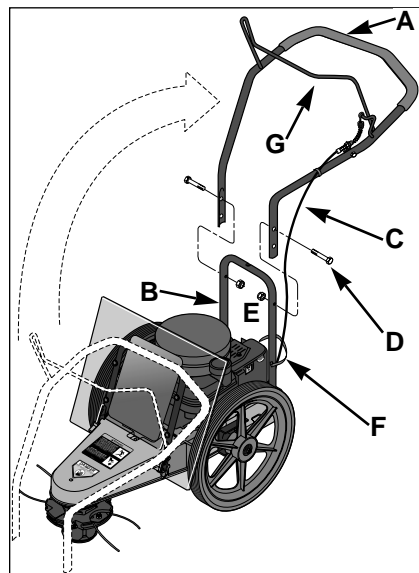


Figure 2-2: Handlebar installation.

STEP 3: Add Motor Oil



CAUTION

Do not overfill the engine with motor oil as engine damage could result.

- A. *The unit's engine was shipped without motor oil which MUST BE ADDED before the engine is started.*
- B. See the Engine Owner's Manual you received for filling instructions and for the correct oil specifications for your engine. Engine must be level when checking oil level. In ambient temperatures above 40° F, use a high-quality SAE 30 weight detergent oil classified for Service SF, SG or SH. Use no special additives. Do not mix oil with fuel.
- C. Lift or slide plastic debris shield (P, Figure 2-3) up and tilt it forward to access engine dipstick/oil fill hole (R).
- D. Add oil according to the instructions in the Engine Owner's Manual.
- E. Lift and tilt the plastic debris shield back and push it down to secure it.

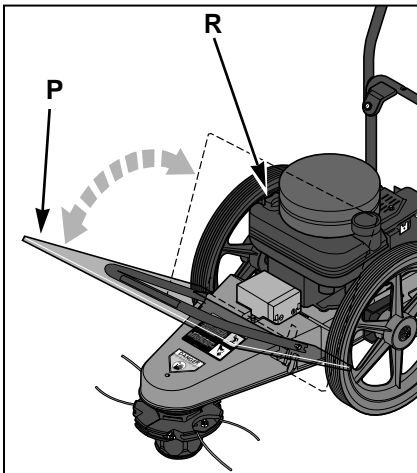


Figure 2-3: Lift and tilt engine debris shield forward.



DANGER

- Wet conditions can cause an electric shock hazard during battery charging. Avoid wet conditions when charging.
- Recharging the battery with improper equipment could cause a battery explosion. Use only the battery charger shipped to you. All parts must be fully stopped and the spark plug wire disconnected and moved away from the spark plug.

Failure to comply could result in personal injury or property damage.

STEP 4: Connect Battery Wires and Charge Battery (electric start model only)

- A. Connect wire lead (T, Fig. 2-4) from the battery (S) to the connector (U) on the main wire harness. Align connectors so wire colors are in line. Press both plastic connectors together securely.
- B. To charge the battery, the battery charger shipped to you must first be connected to the wire harness at location "V" (Fig. 2-5). Then plug the charger box (W, Fig. 2-5) into a grounded 120V wall outlet.
- C. Initially charge battery for 24 hours before using electric starter. After charging, unplug the charger from the wall outlet first, then disconnect the wire harness (V, Fig. 2-5). (Prior to and after removing machine from winter storage, also charge battery for 24 hours.)

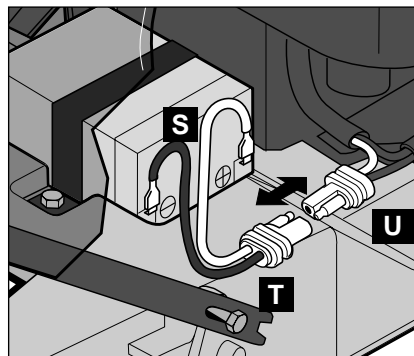


Figure 2-4

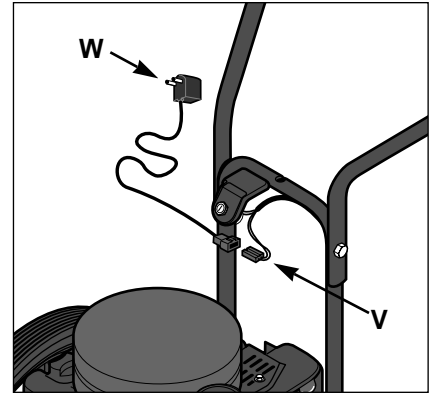


Figure 2-5

STEP 5: Check Trimmer Head Hardware

Check the tightness of the hardware securing the trimmer head at two locations (X, Figure 2-6) and the hardware that secures the line clamps at two locations (Y). You may rotate the trimmer head by hand to make access to the hardware easier. Tighten the hardware securely.

NOTE: The small round hole on the top of the deck near the front of the machine is a service entryway. Its use is explained in "Section 5: Maintenance."

IMPORTANT: The trimmer head hardware is designed to be permanently installed and is not removable. Do not attempt to replace it with non-factory specified hardware.

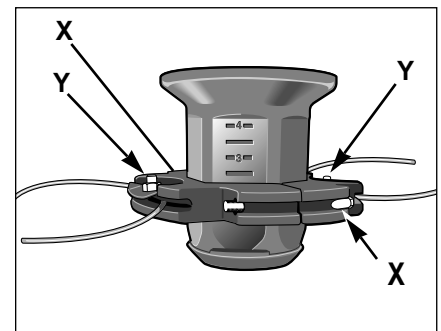


Figure 2-6

Section 3 Features and Controls

The following are features and controls found on the various models of the Trimmer/Mower. Read the description and location of each feature and control. Unless otherwise noted, a detailed descriptions of each feature and control can be found in "Section 4: Operation."

MOWER CONTROLS/FEATURES

Trimmer Head Control Bail

The control bail (A, Fig. 3-1) is used to start and stop trimmer head motion. Pull the control bail up against the handlebar to activate the trimmer head. Let go of the control bail to stop the trimmer head.

Cutting Height Settings

The trimming head (B, Fig. 3-1) is adjustable to an infinite number of height settings from 1-1/2"-to-4-1/2".

Line Mounting Plates

The two cutting lines are secured with bolted clamp plates (C, Fig. 3-1). For most jobs, line length should be adjusted equally. For some jobs, the overall line swath can be increased from the normal 22" to 25" by offsetting the line.

Handlebar Height Adjustment

The handlebar (D, Fig. 3-1) has two height settings (requires removal and reinstallation of two screws and lock-nuts).

Plastic Debris Shield

A heavy-duty plastic shield (E, Fig. 3-1 and 3-1A) protects the engine from all manner of debris. The shield tilts forward for access to oil, fuel fill, and battery (electric start units) areas.

ENGINE CONTROLS/FEATURES

IMPORTANT: Refer to the separate engine manufacturer's Engine Owner's Manual for detailed information about the controls on the engine.

Engine Throttle Control Lever

Use this lever (F, Fig. 3-1) to regulate engine speed.

Engine On/Off Switch

Put switch (G, Fig. 3-1) in ON position before starting engine. Use OFF position to stop engine.

Engine Recoil Starter

The recoil starter (H, Fig. 3-1) is mounted on the engine.

Engine Ignition Keyswitch (electric start model only)

The engine ignition keyswitch (I, Fig. 3-1) allows starting the engine from the handlebar.

Engine Foam Debris Filter

The foam debris filter (J, Figure 3-1) protects the engine from accumulations of cut materials that can clog the engine cooling passages. See the Maintenance Section for information on servicing this important filter.

Battery (electric start model)

The battery (K, Fig. 3-1) starts the engine via the ignition keyswitch.

Fuel Primer Button

The fuel primer button (L, Figure 3-1) allows a cold engine to be primed for faster, easier starting.

Engine Oil Fill/Oil Dipstick

The engine oil fill hole/oil dipstick (M, Figure 3-1) is located on the right side of the engine.

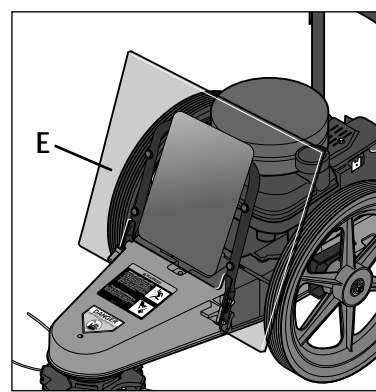


Figure 3-1A: Debris shield in operating position.

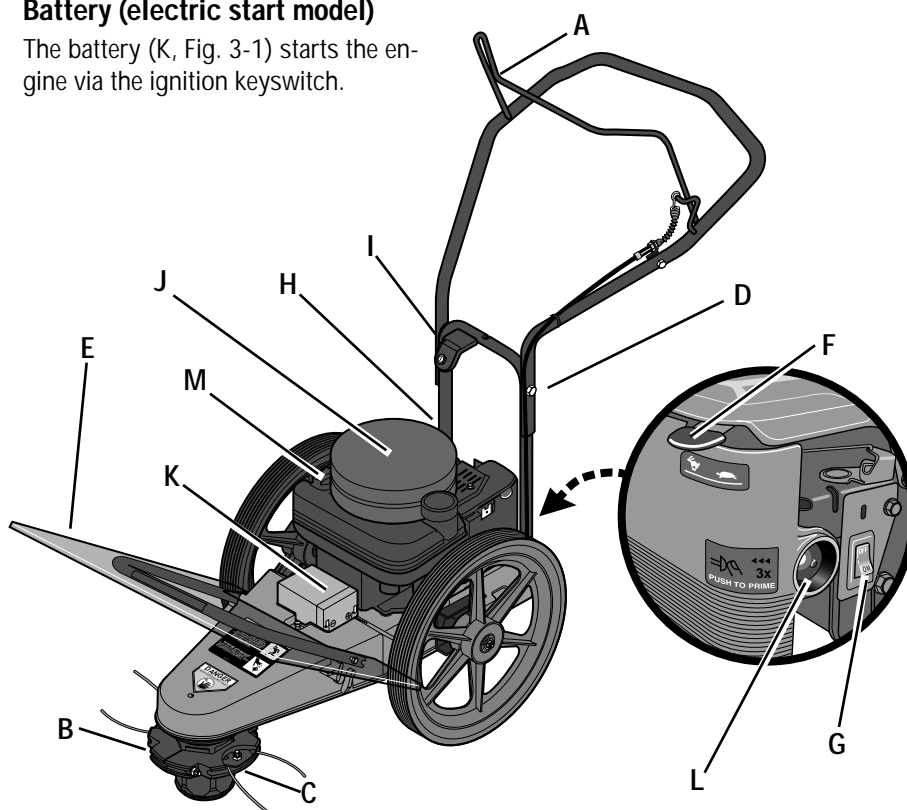


Figure 3-1: Features and controls (electric start model shown)

Section 4 Operation



WARNING

Before operating your machine, carefully read and understand all safety (Section 1), controls (Section 3) and operating instructions (Section 4) in this Manual, in the separate Engine Owner's Manual, and on the decals on the machine.

Failure to follow these instructions can result in serious personal injury.

INTRODUCTION

As with any piece of outdoor power equipment, getting the "feel" for how your machine operates and knowing the best techniques for particular jobs are important to overall good performance.

Read this Section thoroughly before you start the engine. The instructions given here will help you become familiar with your machine and have you operating it efficiently in a short time.

NOTE: All references to left, right, front and rear of the machine are determined by standing in the operator's position.

PRE-START CHECKLIST

- A. Review Section 1: Safety and also Section 3: Features and Controls.
- B. Check equipment for loose or missing hardware. Tighten or replace hardware before starting trimmer/mower.
- C. Check the engine oil level*. It must be up to the "FULL" mark on the oil dipstick. (See the Engine Owner's Manual for instructions.)
- D. Check the fuel level* in the fuel tank. (See the Engine Owner's Manual and this page for instructions.)

E. Check the trimmer head control bail for freedom of movement.

F. Check engine throttle control lever (on units so equipped) for freedom of movement.

G. Select the cutting height (see this Section for full details).

H. Check handlebar height position.

I. On electric start models, check the wire harness connections.

J. Carefully check the area to be trimmed and remove any debris.

K. Check that the spark plug wire is securely attached to the spark plug.

* Clean debris from around fuel cap, oil dipstick, and engine foam debris filter before checking oil level or adding gasoline, in order to keep dirt out of engine.

FILL FUEL TANK

A. Lift and tilt plastic debris shield forward (refer to Figure 3-1).

B. Clean fuel fill area and debris filter each time before fuel is added.

C. Unscrew fuel tank cap and insert a clean funnel into fuel tank (or use a fuel container with a flexible spout). See Engine Owner's Manual for the correct gasoline specifications. Slowly fill the fuel tank, leaving at least 1/2-inch of air space at the top for fuel expansion.

D. Securely replace the fuel tank cap and the fuel container cap. Promptly wipe up any fuel spills.

E. Lift and tilt the debris shield back, then push it down to secure it.

ADJUST HANDLEBAR HEIGHT

To adjust handlebar height, refer to "STEP 2: Install Handlebars" in the Assembly Section of this manual.



DANGER

Gasoline is highly flammable and its vapors are explosive.

- Never fill fuel tank when engine is running or still hot from operation. Allow the engine to cool at least two minutes before refueling.

- Do not allow open flames, sparks, matches or smoking in the area.

- Fill the fuel tank outdoors in a well-ventilated area.

- Wipe up any spills and move the trimmer/mower away from gasoline fumes before starting the engine.

- Securely replace the caps on fuel tank and fuel container.

- Use only an approved fuel container. Store it safely, out of the reach of children.

- Store gasoline in a well ventilated area. Do not store it where vapors could reach an open flame, spark, or ignition sources (such as hot water heater or space heater, furnace, clothes dryer, stove, electric motor, etc.).

Failure to follow these instructions can cause personal injury or property damage.



CAUTION

Before adjusting the handlebar height, shut off the engine, wait for all moving parts to stop, allow the engine to cool, disconnect the spark plug wire and prevent it from touching the spark plug.

Failure to comply could result in personal injury or property damage.

Section 4: Operation

ADJUST LINE CUTTING HEIGHT



CAUTION

Before adjusting the cutting height, shut off the engine, wait for all moving parts to stop, allow the engine to cool, disconnect the spark plug wire and prevent it from touching the spark plug.

Failure to comply could result in personal injury or property damage.

Cutting Height Adjustment

The cutting height of the trimmer line adjusts from 1-1/2"-to-4-1/2" high in infinite increments. The cutting height has been factory-set at one of the higher settings— we recommend that you start at this higher setting and make adjustments as needed. To adjust the cutting height:

A. Cutting line height can be conveniently changed when the wear cup is in contact with the ground. If necessary, you may tip the unit back slightly for a better view (do not tip trimmer all the way back or motor oil may flow to the exhaust area and the engine may smoke for several seconds when started).

B. Use a 1/2" wrench to loosen both bolts (A, Figure 4-1) securing the trimmer head.

C. Note the cutting heights marked on the side of the spindle head (Figure 4-2). Move the top of the trimmer head to the desired setting.

D. Tighten both trimmer head bolts securely (to 75 in/lbs.) and evenly.

General Recommendations:

- In tough trimming conditions, use the highest height settings.
- For less demanding situations, use any trimming height desired.
- With difficult jobs, use extra heavy-duty red line (.155" dia.) to handle thick, tough growth best.

- With easier jobs, use heavy-duty green line (.130" dia.) which provides a higher quality level of cut. This lighter weight line is also recommended near trees or ornamentals to help prevent girdling (cutting the bark).

USING THE TRIMMER HEAD CONTROL BAIL

After the pre-starting checkups are complete, gasoline is added to the fuel tank, handlebar height is adjusted, and trimmer line height is selected, it is essential to know how to use the control bail to start and stop the trimmer head. Here's how to operate this control:

A. The trimmer head control bail (A, Figure 4-3) is used to start and stop trimmer head motion.

B. Leave the control bail in the disengaged (released) position when starting the engine to prevent the trimmer head from turning when the engine starts.

C. When the engine is running, pull and hold the control bail up against the handlebar (Figure 4-4) to activate the trimmer head.

D. Let go of the control bail to stop the trimmer head. The control bail should spring forward to the disengaged position. If it doesn't, do not use the machine until the control bail has been repaired.

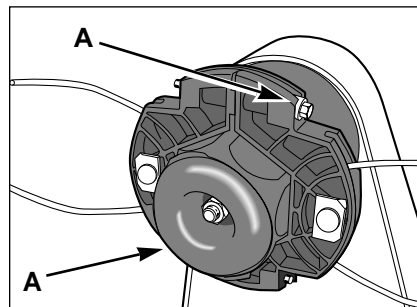


Figure 4-1

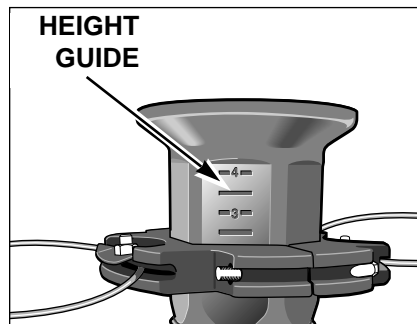


Figure 4-2

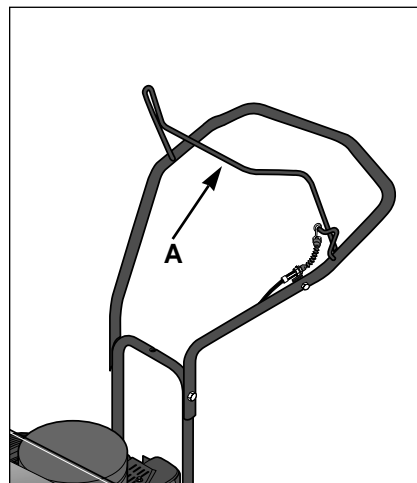


Figure 4-3

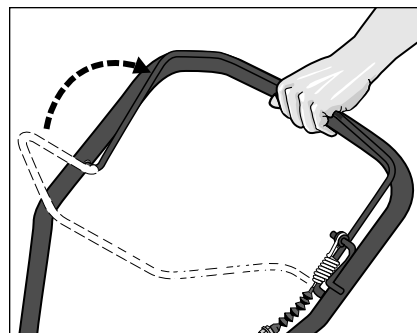


Figure 4-4

Section 4: Operation

OPERATING THE TRIMMER / MOWER

Once you have read and understood the sections in this Manual on "Safety," "Features and Controls," "Assembly," and "Operation," you are ready to start and operate your trimmer/mower.

Checklist Before Starting:

1. Complete the Pre-Start Checklist in this section of the Manual. You must wear safety glasses or goggles.
2. Check that the line cutting height is adjusted according to the instructions.

Starting the Engine

1. Move the trimmer/mower to the work area.
2. Connect the spark plug wire to the spark plug (if not connected).
3. Put on safety-approved eye protection.
4. Start the engine as follows:

Recoil Start Model—

- a) Put the engine ON/OFF switch (A, Figure 4-5) in the ON position.
- b) Move the engine throttle lever (B, Figure 4-5) all the way forward to the FAST ("Rabbit") position.
- c) Push in the fuel primer button (C, Figure 4-5) as instructed in the Engine Owner's Manual. NOTE: Priming is usually not needed to restart a warm engine. However, cool weather may require that priming be used.
- d) Pull recoil start rope slowly until resistance is felt. Then pull rope out rapidly to start engine. Let rope back in slowly. Repeat if necessary.

Electric Start Model—

Follow Steps 1, 2, 3, 4a, 4b and 4c given previously.

- e) Turn the ignition keyswitch to the

"START" position to start the engine. (Use short starting cycles –15 seconds per minute– to extend starter life.) When released, the key will automatically move to the "RUN" position.

Power Up the Trimmer Head

1. Stand in the operator's position directly behind the handlebars.
2. Slowly close the control bail (D, Figure 4-6) against the handlebars to activate the trimmer head. The faster the engine throttle control is set at, the faster the trimmer head line will revolve. Use higher speed settings for the toughest jobs. Use lower speeds (and lighter weight line) where precision cutting is required. And experiment!
3. Once the trimmer head is revolving, push the trimmer/mower along the path to be cut.

To Stop the Trimmer Head

Let go of the control bail (D, Figure 4-6). It will return to its open position and the trimmer head will stop turning.

To Stop the Engine

Put the engine ON/OFF switch in the OFF position. (If time allows, first move throttle lever to SLOW setting before stopping engine.)



WARNING

If the control bail is not operating properly, shut off the engine, disconnect the spark plug wire and move wire away from plug.

Adjust or repair the control bail before using the trimmer/mower.

Failure to follow this instruction could result in personal injury or property damage.

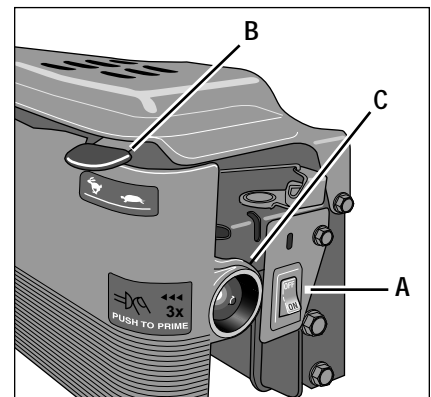


Figure 4-5

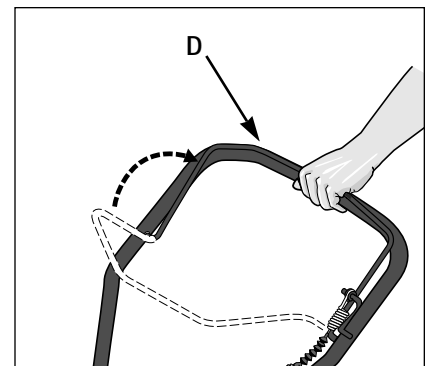


Figure 4-6

Section 4: Operation

TRIMMING & MOWING TECHNIQUES AND TIPS

Trim When Wet or Dry

Grass and most other materials are most efficiently trimmed when dry. But the trimmer/mower will do a fine job even with damp or wet materials. When conditions are moist or damp, be sure to clean debris off the machine regularly to keep cutting efficiency high. And watch your footing.

Clean the Trimmer/Mower On a Regular Basis

Clean under the trimmer/mower frequently to remove any grass buildup. Also clean around the muffler and on top of engine. See cleaning instructions in Section 5: Maintenance for further details.

Use the Correct Cutting Height to Suit the Job

Generally, the height of the trimming line should be adjusted upward to handle taller material and cope with tougher cutting conditions. Ease into heavy growth materials. For the most precise cutting possible, let the cutting head rest lightly on the ground, and do not lift up on the handlebars while mowing. This lets the cutting head follow the ground contour closely, resulting in the most even cut possible.

When conditions are not so demanding, and the material to be trimmed is not so tall, the cutting height can be adjusted downward.

Don't overwhelm the equipment with the job at hand. Your equipment will work more effectively.

Do Not Let the Trimmer Lines Become Too Short

Once the lines are worn to less than 1/2 their original length, trimming jobs begin to take far longer than they should. As a general guideline, once line length becomes half of its original length, it's time to change to new lines.

Use the Right Diameter Line for the Trimming Job

Before starting a project, examine the grass or material you will be cutting. For tougher projects, use two sections of the red .155" diameter extra-heavy-duty line; for less demanding jobs, use two sections of the green .130" diameter heavy-duty line. The thicker line has the heft to chop through tougher materials, while the thinner line provides a more precise cut.

Use Extreme Caution on Slopes

When operating on sloping ground, use extreme caution and common sense to avoid possible injury or property damage.

Do not mow on excessively steep slopes! Avoid slopes if greater than 15° or wherever footing is unsure. If a slope is difficult to stand on, it is probably too steep to trim or mow. In this case, it may be wiser to establish a permanent ground cover on this area.

Do not trim on slopes when the ground is slippery. Trim across the face of a slope, not up and down. Slow down and exercise caution when changing direction on slopes.

Use Correct Walking Speed

Use a travel speed that is suitable for the conditions at hand. For example, you'll get better trimming and mowing results at slower walking speeds if the grass is tall or lush. Shorter grass or less dense growth can be cut at faster travel speeds.

Vary the Throttle Setting to Suit the Job

The vast majority of trimming and mowing jobs will yield the best results if the engine throttle control is set at the fastest engine speed.



WARNING

THROWN OBJECT HAZARD

- Objects such as rocks, pebbles, and small debris will be thrown violently by the cutting head, resulting in significant hazard to eyes and exposed body parts.
 - Always wear safety-approved eye protection and suitable clothing and footwear.
 - Keep children, pets and bystanders 50 feet away from machine while operating.
 - Be alert to hidden obstacles.
- Failure to comply could result in injury or property damage.

Less demanding jobs and projects that require very precise cutting will yield better results if the engine throttle is backed off somewhat to reduce engine speed. (For example, damage to trees and ornamentals can be avoided by reducing the engine speed, using the lighter .130" diameter line, and by keeping a safe distance away.)

Again, once you begin a particular job and get a "feel" for the conditions, you will be able to make adjustments for the best possible results.

Keep the Mowed Side to Your Right as You Move Ahead

The trimmer/mower feeds cut materials to the right side. Stay on the right side of unmowed growth as you move along.

NOTE: If trimmer is operated in a stationary position with the wear cup in contact with dry vegetation, significant heat will result that may deform the plastic spindle or scorch vegetation.

Section

5

Maintenance/Repairs



WARNING

Before inspecting, cleaning or servicing the machine, shut off engine, disconnect spark plug wire, and make sure that all moving parts have come to a complete stop. Remove ignition key on electric start models.

Failure to follow these instructions can result in personal injury or property damage.

NOTE: All references to left, right, front and rear of the machine are determined by standing behind the handlebars and facing the direction of forward travel.

REQUIRED MAINTENANCE SCHEDULE					
REQUIRED MAINTENANCE	BEFORE EACH USE	EVERY 5 HOURS	EVERY 25 HOURS	EVERY 100 HOURS	AS NOTED
CHECK ENGINE OIL LEVEL	•				
CHECK TRIMMER/MOWER LINES	•				1
CHECK TRIMMER HEAD ENGAGEMENT	•				
ENGINE/MACHINE CLEANING	•				3
CHECK NUTS AND BOLTS	•				
CHANGE ENGINE OIL			•		2
SERVICE AIR FILTER SYSTEM			•		5
CLEAN OUT BELT COVER			•		
GENERAL LUBRICATION			•		
INSPECT DRIVE BELT				•	
CLEAN ENGINE FOAM DEBRIS FILTER	•				4
CHECK WEAR CUP		•			6

Chart 5-1

NOTE 1 – New line replacement is suggested when old line is 50% or less of original length.

NOTE 2 – Change oil after first two hours of new operation; thereafter every 25 hours.

NOTE 3 – Clean daily if used in extremely dusty or dirty conditions.

NOTE 4 – Clean before using machine, and at each fuel refill.

NOTE 5 – Service more often if used in extremely dusty or dirty conditions.

NOTE 6 – Replace when severe gouges exist on bottom surface.

Section 5: Maintenance/Repairs



WARNING Before inspecting, cleaning or servicing the unit, shut off engine, wait for all parts to come to a complete stop, disconnect spark plug wire and move wire away from spark plug. Remove ignition key on electric start models. Failure to follow these instructions can result in serious personal injury or property damage.



ADJUSTING TRIMMER HEAD ENGAGEMENT

A. To test for correct belt tension, engage the control bail while the engine is running. If correct, the trimmer head will rotate when the control bail is pulled back fully against the handlebar.

B. If belt tension is too loose, the trimmer head will move slowly or not at all and squealing from belt slippage may be heard when the bail is engaged.

C. If belt tension is too tight, the trimmer head will rotate before the control bail is moved or when there is no free play in the bail.

D. To make an adjustment to belt tension, shut off the engine, let all moving parts stop completely, and adjust the position of the two nuts on the stud shown in Figure 5-2 as described next:

1. To tighten belt tension, close the bail, move the upper nut (A, Figure 5-2) upward, then move the lower nut (B) upward. To loosen belt tension, move the lower nut down and then the upper nut down. Tighten both nuts securely.

2. If adjustments over time move the nuts to the top of the threaded stud, the cable bracket (C) can be moved down the handlebar to the next hole. This permits a new range of adjustments.

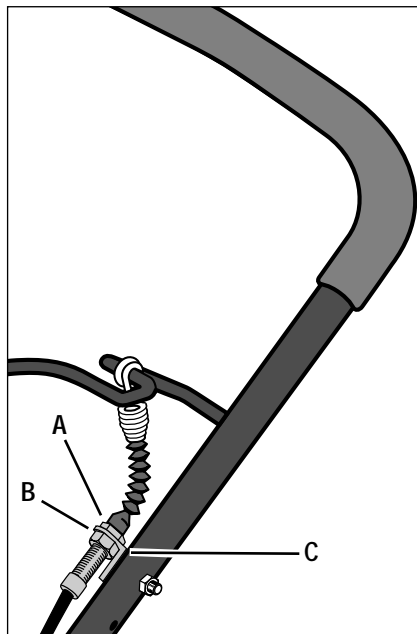


Figure 5-2: Belt tension adjustment.

REMOVING & REPLACING THE TRIMMER HEAD

A. Stop the engine and wait for all moving parts to stop. Disconnect spark plug wire and move it away from the spark plug. Remove the ignition key on electric start models.

B. Two bolts (A, Figure 5-3) secure the trimmer head (B) to the spindle head (C). Loosen both bolts (not the nuts) sufficiently to open up the trimmer head enough to let it slide down the spindle head and past the two stops. Do not attempt to remove the bolts completely—they are permanently attached.

Install the new trimmer head in the same way the old unit was attached. Open it enough to slide it on the spindle head. Tighten the hardware securely (to 75 in/lbs.).

C. If the wear cup (D, Figure 5-3) is also worn, replace it. To do so, insert a phillips head screwdriver in the hole at the top-front of the deck while removing nut (E). Discard the old cup, position the new wear cup, and replace nut (E) securely.

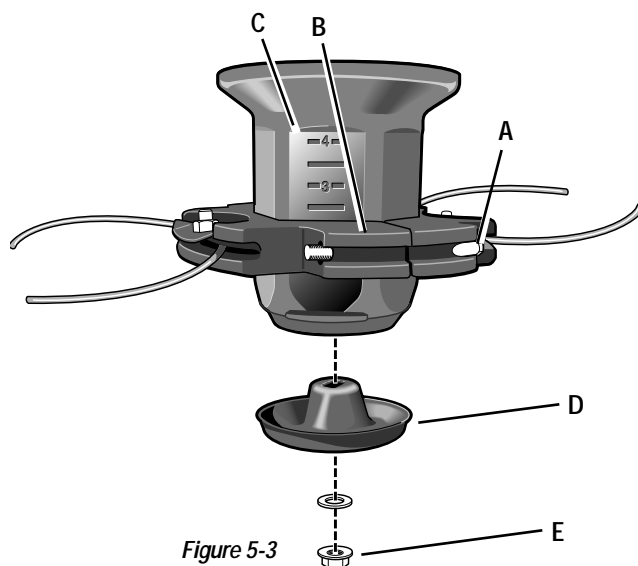


Figure 5-3

Section 5: Maintenance/Repairs



WARNING Before inspecting, cleaning or servicing the unit, shut off engine, wait for all parts to come to a complete stop, disconnect spark plug wire and move wire away from spark plug. Remove ignition key on electric start models. Failure to follow these instructions can result in serious personal injury or property damage.



INSPECTING / REPLACING THE DRIVE BELT

The drive belt can be inspected or replaced from beneath the machine deck.

The belt should not require inspection for many hours of operation. If replacement becomes necessary, follow the instructions given here.

Belt Inspection

Stop the engine and let all moving parts stop. Disconnect the spark plug wire and move it away from the spark plug. Remove the ignition key on electric start models.

A. For your convenience, we recommend that you place the trimmer/mower on a raised platform to make access to the underside of the deck as easy as possible.

B. Remove the rubber debris flap (A, Figure 5-4) by using pliers to remove either one of the small E-rings (B) at the ends of the retainer rod and then sliding the retainer rod out.

C. Remove the rear belt cover by using a 1/2" wrench to remove the single screw (C, Figure 5-4) in the rear belt cover. Examine the belt carefully. Feed it around the rear pulley so the entire belt can be examined. If cracks or other damage are noted, a new belt is needed. Otherwise, clean and replace the belt cover and debris flap.

Belt Replacement

D. Remove the spindle head by taking off the large hex nut (A, Figure 5-5) at the bottom of the spindle using a 3/4" socket wrench. (While loosening the nut, hold the spindle head secure by inserting a screwdriver or rod into hole B, Figure 5-6, at the top-front of the deck. Be sure to align one of four holes in the pulley with the deck hole first.)

E. With a 1/2" wrench, remove the screw (D, Fig. 5-4) securing the front belt cover/spindle mounting plate. Then remove the other four screws holding the belt cover/spindle mounting plate on (E, F, G and H, Fig. 5-4). Lower the drive housing and the belt cover/spindle mounting plate carefully. Note precisely how the belt is routed along the pulleys. (See Figure 5-7.) Work the belt off the rear pulley (H, Figure 5-7), then off the other pulleys. **NOTE:** The nut on the idler arm V-pulley must be removed in order to take off the belt. The screw may need to be held with an allen wrench. Install the new belt along the very same path.

F. Clean parts of all debris. Replace the lower driveshaft housing and front belt cover/spindle mounting plate, the spindle head, the wear cup, the rear belt cover and the debris flap.

G. Check for correct belt tension. See "Adjusting Trimmer Head Engagement" in this Section.

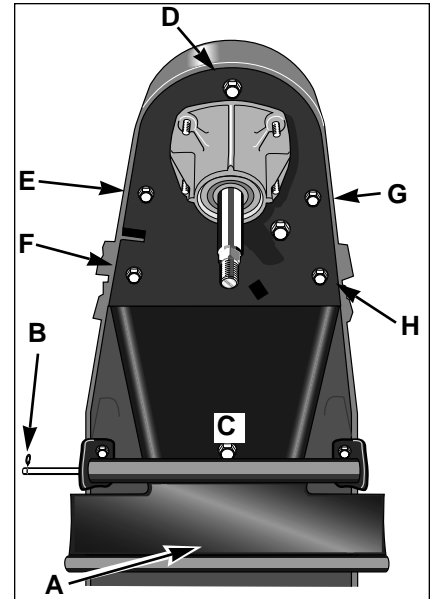


Figure 5-4

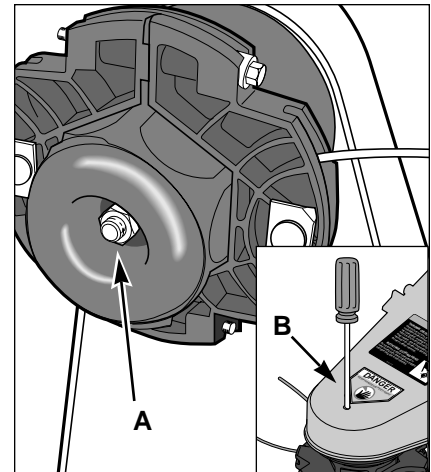


Figure 5-5

Figure 5-6

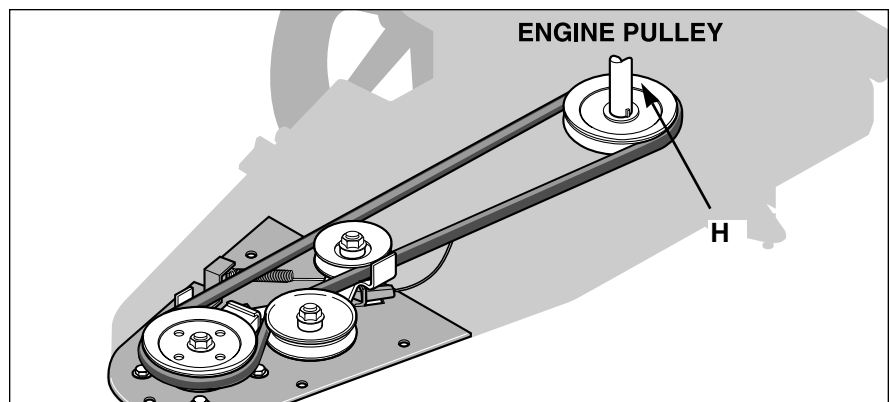


Figure 5-7

Section 5: Maintenance/Repairs



WARNING Before inspecting, cleaning or servicing the unit, shut off engine, wait for all parts to come to a complete stop, disconnect spark plug wire and move wire away from spark plug. Remove ignition key on electric start models. Failure to follow these instructions can result in serious personal injury or property damage.



BELT PERFORMANCE TROUBLESHOOTING

Sub-par belt performance (noise, overheating, cracking, etc.), can be caused by several situations. Follow the steps below to correct belt performance problems. Also use these checks after installing a new belt. After shutting the engine off and disconnecting the spark plug wire, remove the rear belt cover on the underside of the machine (refer to previous page). The handlebar control bail must be released to remove all belt tension.

1– Belt must be routed between pulleys and guides.

Examine inside surface of belt. If belt is cracked or peeling, unbolt and lower spindle mounting plate and proceed with this step. The pulley system has two belt guides. The belt must run between the pulleys and the guides. If routed incorrectly, re-route belt as shown in Figures 5-8 and 5-9. Use masking tape to temporarily hold belt in place while reattaching the spindle mounting plate.

2– Minimum clearance is 1/4" on each side between rear belt guide and pulley.

If the rear belt guide (Figure 5-9) is less than 1/4" from the sides of the pulley with the bail engaged, loosen the belt guide hardware, move guide to create clearance of at least 1/4", then tighten hardware.

3– Both idler pulleys must be mounted right-side up.

The two idler pulleys shown in Figure 5-10 are correctly installed– note that the longer hub on each pulley is against the idler arm. If the pulleys are upside-down, turn them over and tighten them securely.

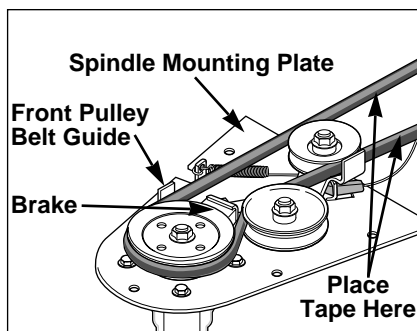


Figure 5-8

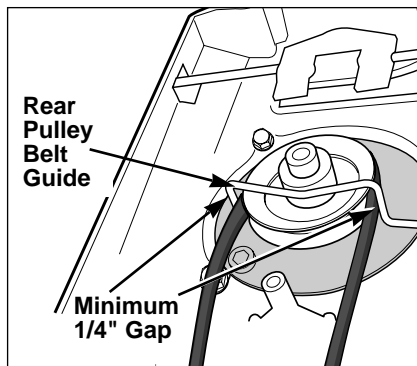


Figure 5-9

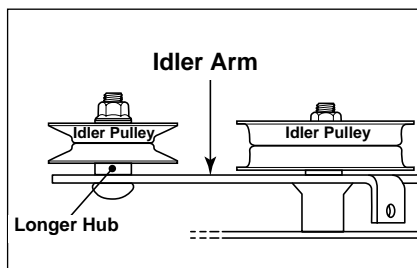


Figure 5-10

CLEANING AND DEBRIS REMOVAL

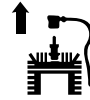
Thorough and regular cleaning of debris from around the engine and on the machine is required for maximum engine efficiency and good overall performance. Inspect and clean the following areas regularly:

- Brush and wipe off all engine surfaces, especially before checking oil or adding fuel. Do not let oil or grease accumulate. For access to the front of the engine, the debris shield can be lifted up and tilted forward.
- Wipe the deck clean, particularly near the engine muffler.
- Keep safety and operating decals clean and legible.
- Clean the underside of the deck.
- Keep all operating control levers debris-free so they work properly.
- Loosen the clamp plates securing the trimmer lines, remove the lines, clean thoroughly under the plates in the grooves, then replace the trimmer lines. Hint: Use a pipe cleaner.

Section 5: Maintenance/Repairs



WARNING Before inspecting, cleaning or servicing the unit, shut off engine, wait for all parts to come to a complete stop, disconnect spark plug wire and move wire away from spark plug. Remove ignition key on electric start models. Failure to follow these instructions can result in serious personal injury or property damage.



CHANGING TRIMMER/MOWER LINES

Replace the trimmer lines when they wear to the point that trimming and mowing projects take too long and require too much movement. A good rule of thumb is to change the lines when they reach half their original length.

To Change Trimmer Lines:

1. Stop engine, allow all moving parts to stop and then disconnect the spark plug wire and move it away from the spark plug. Remove the ignition key on electric start models. DO NOT tip the machine. DO NOT touch the metal wear cup on the bottom of the spindle head. This surface may be hot.

NOTE: The two lines are held in place with two steel clamp plates, each clamp permanently secured by a bolt and a nut. Do not attempt to remove the nuts—it is not necessary to remove them in order to change the trimmer lines.

2. Use a 1/2" open-end wrench to loosen the nut (A, Figure 5-11) on one

clamp plate (B) until the clamp plate is loose. Slide the old line out and discard it. Clean out the groove underneath the clamp plate very thoroughly.

3. Feed the new 18" long trimmer line under the clamp plate, positioning it as far back as possible next to the arc (into the groove) of the trimmer head, so the downward-facing prongs of the clamp plate make contact with the line. (Putting gentle downward pressure on the outer edge of the clamp plate will ease installation.) See Figure 5-12 to see how the new line should be positioned. An equal amount of line should project out from each side of the clamp plate, creating an overall 22" wide cutting swath. You may offset both trimmer lines somewhat to increase the cutting swath up to 25" wide. DO NOT offset the line so that the overall cutting swath is greater than 25". See Warning statement at right.

NOTE: Whether replacing one or both lines, they must both be .130" or .155" in diameter.

4. If bottom of trimmer head is equipped with two brackets (see Figure



WARNING

Offsetting the trimmer lines causes the lines to rotate faster than when they project an equal length on each side. This increases the chance of loose materials being dislodged and propelled at high speeds.

Failure of the operator to wear safety goggles and appropriate clothing and to keep bystanders away can result in severe personal injury or property damage.

5-13), position prongs on brackets as shown by large arrows in Figure 5-13.

5. While holding the clamp plate (B, Figure 5-11) in position on the line (be sure prongs on clamp plate are in contact with the line), retighten the nut (A) to 75 in/lbs. Do not overtighten.

6. Repeat steps 2 through 5 to replace the second trimmer line.

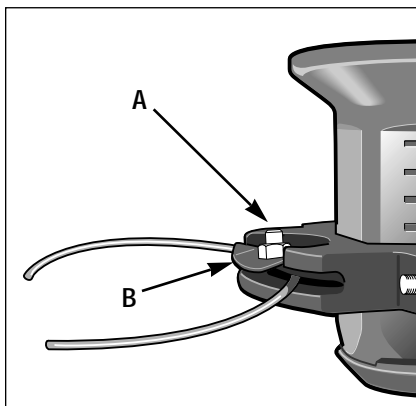


Figure 5-11: Slide a new section of trimmer line underneath the clamp plate (B), then retighten the nut (A) securely to hold the trimmer line in place.

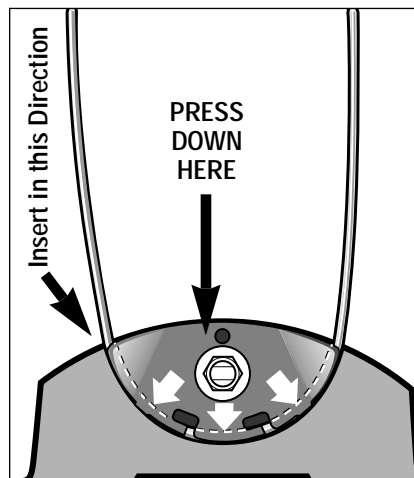


Figure 5-12: Correct position of newly installed line.

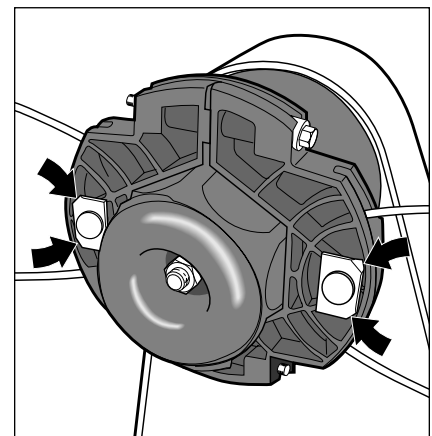


Figure 5-13: On bottom of trimmer head, position brackets (if so equipped) as shown before tightening nuts on clamp plates.

Section 5: Maintenance/Repairs



WARNING Before inspecting, cleaning or servicing the unit, shut off engine, wait for all parts to come to a complete stop, disconnect spark plug wire and move wire away from spark plug. Remove ignition key on electric start models. Failure to follow these instructions can result in serious personal injury or property damage.



CLEANING THE ENGINE FOAM DEBRIS FILTER

It is extremely important to keep the foam debris filter (A, Figure 5-14) free of dirt and dust so the engine can run as efficiently and as cool as possible.

Clean the foam debris filter every time you refuel (also remove all debris from around the fuel fill cap).

To wash the debris filter, remove the outer "O-ring" (B, Figure 5-14) and carefully lift it off the wire guard (C) to which it is attached on top of engine. Soak filter in warm water and detergent solution.

When clean, rinse the debris filter thoroughly, then air dry it. The wire guard may also be removed to clean out any debris. Replace the wire guard and foam filter properly—they must make contact with the engine. The recoil start rope must fit in the slot. Be sure the "O-ring" is 1/2" above the engine.

NOTE: Inspect the engine air filter system as per the Engine Owner's Manual.



WARNING

Never run engine without the debris filter properly installed. If debris filter is not properly installed, grass clippings may be drawn into engine, causing heat buildup and, in some cases, a fire.

Failure to comply can cause injury or property damage.

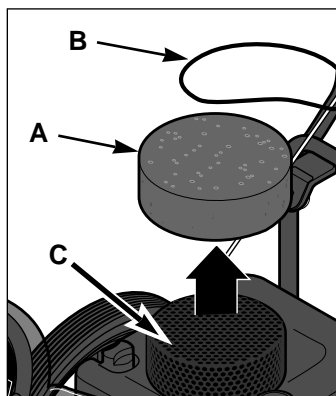


Figure 5-14.

GENERAL LUBRICATION

Apply grease, light oil or silicone-based lubricant to your machine so parts work more smoothly and are protected from the elements. The following are general guidelines:

Light Grease:

- Wheel axle shaft pivot points

Silicone-base Spray Lubricant (or light oil):

- Throttle control cable (if so equipped)
- Control bail cable
- Nuts, bolts and other hardware

NOTE: The spindle head is permanently lubricated at the factory. There is no need for additional lubrication.

COMPACT STORAGE

For compact storage of the unit, remove the two screws and locknuts securing the handlebar and carefully (to avoid kinking the cable) rotate the handlebar so that the upper portion rests on the engine and the handlebar legs face to the rear of the unit.

GENERAL ENGINE MAINTENANCE

Perform the following engine maintenance for your engine according to the engine maintenance schedule and instructions in the separate Engine Owner's Manual:

- Check engine oil level.
- Add oil to engine.
- Change engine oil. (In order to change the oil, debris flap and belt cover removal are required to access the oil drain plug.)
- Inspect the air cleaner.
- Inspect the spark arrester muffler (if so equipped).
- Inspect the spark plug.

OFF-SEASON STORAGE

When storing the trimmer/mower for extended periods, follow these procedures to ensure that the trimmer/mower will be in good condition for future use.

- Store machine on a level surface.
- Thoroughly inspect the machine for any loose, broken or missing parts. Repair or replace parts as necessary.
- Remove all fuel from fuel tank or use a fuel stabilizer additive as directed in the Engine Owner's Manual.
- Change engine oil.
- Remove spark plug and squirt 1/2-ounce of engine oil into spark plug hole. Cover hole with a rag. Slowly pull recoil starter rope to crank engine, then reinstall plug.
- Clean any dirt, grass or chaff from the air cooling system intake area and other parts of the engine.
- Check nuts, bolts, other hardware for tightness. Replace missing hardware.
- On an electric start model, remove key from keyswitch. Charge battery for 24 hours *before* and *after* storage.
- Disconnect spark plug wire from spark plug. Prevent wire from touching spark plug by placing wire boot away from spark plug.



WARNING

• Never perform maintenance when engine is running or spark plug wire is connected except when instructed to do so.

• Never store mower with fuel in fuel tank inside a building where fumes can reach an open flame or spark, or where ignition sources are present such as hot water and space heaters, furnaces, clothes dryers, stoves, electric motors, etc. Make sure engine is cool before storing.

• Drain gasoline outdoors into an approved container.

• Do not smoke and keep fuel away from open flame.

Failure to follow these instructions will result in serious personal injury or property damage.

Section 5: Maintenance/Repairs



WARNING Before inspecting, cleaning or servicing the unit, shut off engine, wait for all parts to come to a complete stop, disconnect spark plug wire and move wire away from spark plug. Remove ignition key on electric start models. Failure to follow these instructions can result in serious personal injury or property damage.



BATTERY RECHARGING



DANGER

- Wet conditions can cause an electric shock hazard during battery charging. Avoid when conditions when charging.

- Recharging the battery with improper equipment could cause a battery explosion. Use only the battery charger shipped to you. All parts must be fully stopped and the spark plug wire disconnected and moved away from the spark plug.

Failure to comply could result in personal injury or property damage.

Prior to and after coming out of storage, recharging the battery is recommended.

The engine must be stopped and the area in which recharging will take place must be dry.

A. Connect the battery charger shipped to you to the trimmer/ mower wire harness (A, Figure 5-15). The terminals should be snugly connected.

B. Plug the recharger (B, Figure 5-15) into a grounded 120-Volt outlet.

C. Charge the battery for 24 hours. Remove the recharger from the wall outlet first, and then the wire harness.

C. Two bolts (A and B, Figure 5-16) secure the battery to the deck. Remove bolt A, then work the battery from under the battery clamp.

D. Position the new battery under the clamp and replace bolt A.

E. Reconnect both wires to the battery terminals. First connect the red wire to the positive (+) terminal; then the black wire to the negative (-) terminal.

NOTE: Discard battery properly, as required by regulations in your area.

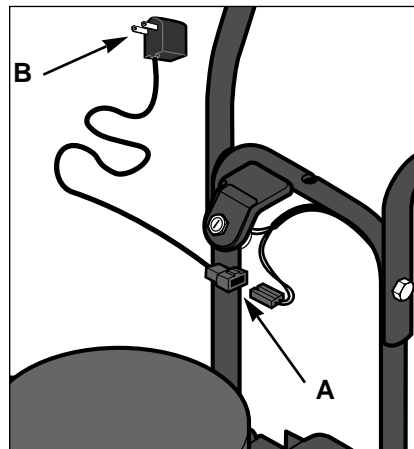


Figure 5-15: Use the recharger shipped to you to charge the battery.

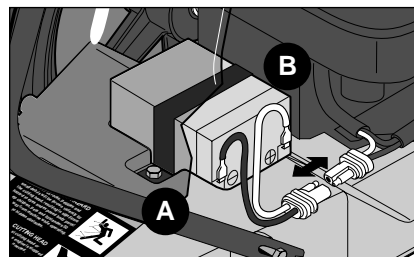


Figure 5-16: Battery replacement.

BATTERY REPLACEMENT

If the battery no longer takes a charge, or is leaking or otherwise damaged, it must be replaced.

A. Tilt the debris shield forward.

B. Disconnect both wires from the battery terminals. Remove the negative (-) black wire, then the positive (+) red wire.

Section 5: Maintenance/Repairs

TROUBLESHOOTING

Before performing any of the corrections in this Troubleshooting Chart, refer to the appropriate information contained in this Manual for the correct safety precautions and operating or maintenance procedures. Contact your local authorized Engine Service Dealer for engine service. Contact your local authorized Trimmer/Mower dealer for service problems with the machine.

PROBLEM	POSSIBLE CAUSE	CORRECTION
Engine does not start.	<ol style="list-style-type: none"> 1. Spark plug wire disconnected. 2. Defective or incorrectly gapped spark plug. 3. Fuel tank empty. 4. Dirty carburetor or fuel line. 5. Dirty air cleaner. 6. Carburetor out of adjustment. 7. Engine flooded. 8. Engine Throttle Lever in incorrect position. 9. Stale gasoline. 10. Defective Engine Throttle Lever. 11. Dirt or water in fuel tank. 	<ol style="list-style-type: none"> 1. Reconnect wire. 2. Inspect/replace spark plug. 3. Add fuel. 4. Clean carburetor or fuel line. 5. Clean or replace. 6. Adjust carburetor. See Engine Service Dealer. 7. Wait several minutes before starting. 8. Move Throttle Lever to FAST position. 9. Drain old fuel and add fresh fuel. 10. See Engine Service Dealer. 11. See Engine Service Dealer.
Engine runs poorly.	<ol style="list-style-type: none"> 1. Bad spark plug. 2. Dirty air filter. 3. Carburetor out of adjustment. 4. Stale fuel. 5. Dirt or water in fuel tank. 6. Engine cooling system clogged. 	<ol style="list-style-type: none"> 1. Inspect/replace spark plug. 2. Clean or replace. 3. Adjust carburetor. 4. Drain and replace fuel mixture. 5. See Engine Service Dealer. 6. Clean fins.
Engine overheats.	<ol style="list-style-type: none"> 1. Engine cooling system clogged. 2. Carburetor out of adjustment. 	<ol style="list-style-type: none"> 1. Clean air cooling areas and behind debris shield. 2. Adjust Carburetor. See Engine Service Dealer.
Engine does not shut off.	<ol style="list-style-type: none"> 1. Defective engine On/Off switch (4HP Model). 	<ol style="list-style-type: none"> 1. See Engine Service Dealer.
Poor mowing performance.	<ol style="list-style-type: none"> 1. Line length is too short or too long. 2. Cutting height is too high or low for height of grass being cut. 3. Engine not set at FAST speed. 	<ol style="list-style-type: none"> 1. Adjust line length to 18" long. When less than 1/2 this length, replace the line. 2. Adjust cutting height to approximately 1/3 of the length of the grass. 3. Move Engine Throttle Lever to FAST (Rabbit).
Trimmer/Mower vibrates.	<ol style="list-style-type: none"> 1. Trimming head mounting bolt loose. 2. Line lengths are substantially different. 3. Loose nuts or bolts. 4. Broken spindle head or trimmer head. 	<ol style="list-style-type: none"> 1. Tighten bolt. 2. Adjust lines to approximately equal lengths. 3. Check all bolts and nuts, including engine bolts. 4. Replace broken part.
Trimmer head does not retain line.	<ol style="list-style-type: none"> 1. Debris under the trimmer head clamp plates. 2. Prongs not clamping on line. 	<ol style="list-style-type: none"> 1. Clean underneath both clamp plates. Retighten plates securely. 2. Replace head assembly.
Trimmer Head does not retain height setting.	<ol style="list-style-type: none"> 1. Head bolts may be loose. 2. Head is worn. 	<ol style="list-style-type: none"> 1. Tighten head bolts to 75 in/lbs. 2. Replace head assembly.
Electric Starter does not start engine (electric start models only).	<ol style="list-style-type: none"> 1. Wire harness connector unconnected. 2. Battery not charged. 3. Broken wire in wiring harness. 4. Malfunctioning starter motor. 	<ol style="list-style-type: none"> 1. Reconnect wiring harness. 2. Charge battery. 3. Replace wiring harness. 4. Contact local engine dealer.
Battery does not charge during engine operation (electric start models).	<ol style="list-style-type: none"> 1. Broken wire in engine recharging circuit. 2. Malfunctioning engine recharging system. 3. Dead battery. 	<ol style="list-style-type: none"> 1. Contact local engine dealer. 2. Contact local engine dealer. 3. Replace battery.
Battery charger does not charge battery (electric start models).	<ol style="list-style-type: none"> 1. Broken battery lead. 2. Broken battery charger wire. 3. Dead battery. 	<ol style="list-style-type: none"> 1. Replace battery lead. 2. Replace battery charger. 3. Replace battery.

Parts Ordering Information

If you need service or parts:

For service assistance or parts, contact your local authorized dealer or the factory.

Your local dealer or the factory service department will need to know the model/serial numbers of the unit to provide the most efficient service. See the back cover for information on how to identify and record the identification numbers for the unit. When ordering parts, be sure to provide the following:

- Serial Number and Model Number of your unit.
- Parts number of the part needed.
- Part description.
- Quantity needed.

If you need engine service or parts:

For engine service or parts, contact your local authorized engine dealer. Look in the Yellow Pages of the phone book under "Engines—Gasoline" for the name of your nearest authorized engine dealer. An authorized engine dealer can handle all parts, repairs, and warranty service concerning the engine.

Note:

All replacement parts must conform to our rigid quality specifications. Although some replacement parts we provide may vary slightly in shape, color or texture from the original parts, any variations will not affect the fit or performance of these parts on your unit.



WARNING

WE URGE USING ONLY GENUINE REPLACEMENT PARTS WHICH MEET ALL THE LATEST REQUIREMENTS. REPLACEMENT PARTS MANUFACTURED BY OTHERS COULD PRESENT SAFETY HAZARDS, EVEN THOUGH THEY MAY FIT ON THE UNIT.

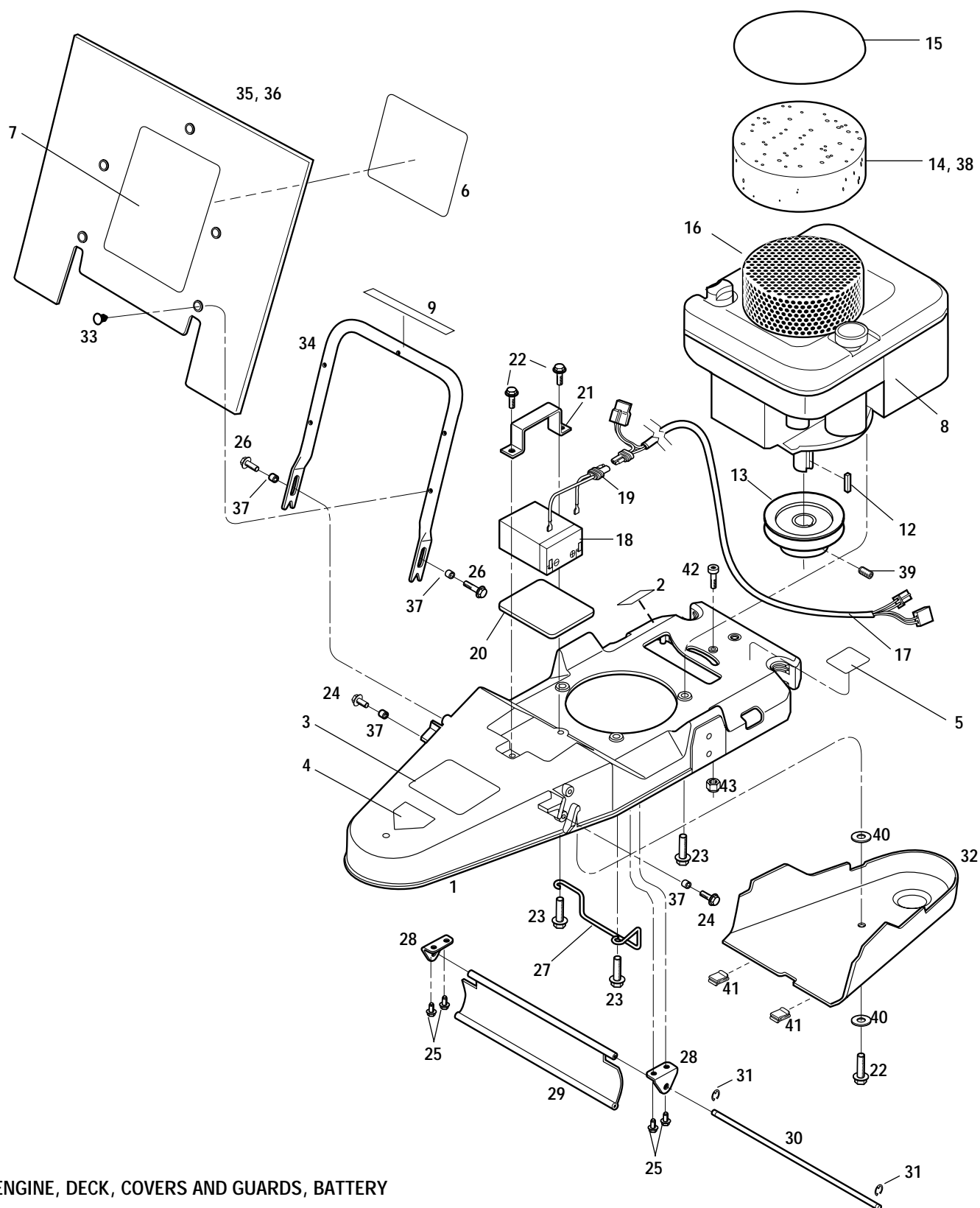
IMPORTANT:

Left and right sides of the unit are determined by standing behind the unit, in the operator's position, and facing the direction of forward travel.

NOTICE:

We reserve the right to change specifications, add improvements or discontinue the manufacture of any of our equipment without notice or obligation to purchasers of our equipment.

Trimmer/Mower Parts List



ENGINE, DECK, COVERS AND GUARDS, BATTERY

Models 52051 and 52052

ENGINE, DECK, COVERS AND GUARDS, BATTERY

Ref. #	Part #	Description	Qty.	Ref. #	Part #	Description	Qty.
1	1916993	Deck with decals.....	1	25	1909301	Hex Hd Flange Screw, 1/4-20 x 5/8	4
2	1904511	Decal-Hot Surface.....	1	26	1763187	Hex Hd Flange Screw, 1/4-20 x 1	2
3	1904403	Decal-Warning/Thrown Objects	1	27	1910865	Belt Guide	1
4	1739687	Decal-Danger Feet/Hands	1	28	1915219001	Flap Bracket	2
5	1915964	Decal-Warning	1	29	1915211	Deflector Shield	1
6	1915892	Decal-Warning	1	30	1915212	Deflector Shield Rod	1
7	1916853	Decal-Logo (A)	1	31	1185304	E-Ring, 5/16"	2
	1916854	Decal-Logo (B)	1	32	1915205	Belt Cover	1
8	*	Engine-Quantum, Std (A).....	1	33	1915290	Push-In Fastener	5
	*	Engine-Quantum, Electric (B)	1	34	1915967	Engine Cover Support w/decals	1
9	1915965	Decal - Cover Support	1	35	1916994	Engine Cover w/decals (A).....	1
12	9301	Key, 3/16" x 1" Sq.	1	36	1916995	Engine Cover w/decals (B).....	1
13	1915240	Pulley, 4" OD.....	1	37	1915320	Spacer	4
14	1915276	Engine Debris Guard/Foam	1	38	1904478	Service Kit (includes Ref. 14, spark plug, fuel stabilizer, air filter element, pre-air filter element and v-belt).....	N/I
15	1915304	O-Ring/Engine Debris Guard.....	1	39	9677	Set Screw	1
16	1916571	Engine Debris Guard	1	40	94018	Washer	2
17	1910835	Wire Harness (B)	1	41	9218	Clip	2
18	1909647	Battery (B)	1	42	9719	Socket Hd. Capscrew, 1/4-20 x 1.....	1
19	1909697	Battery Connector (B)	1	43	1185814	Toplock Nut, 1/4-20.....	1
20	1915268	Battery Pad (B)	1				
21	1915204001	Battery Bracket (B)	1				
22	90063	Hex Hd. Flange Screw, 5/16-18 x 1**.....	3				
23	1768194	Hex Hd. Flange Screw, 3/8-16 x 1-1/2	3				
24	1754128	Hex Hd Flange Screw, 1/4-20 x 3/4	2				

* Order parts from your local Briggs and Stratton engine dealer. Refer to engine for model/type number.

** Quantity of 3 for Model 52052 only. Quantity is 1 for Model 52051.

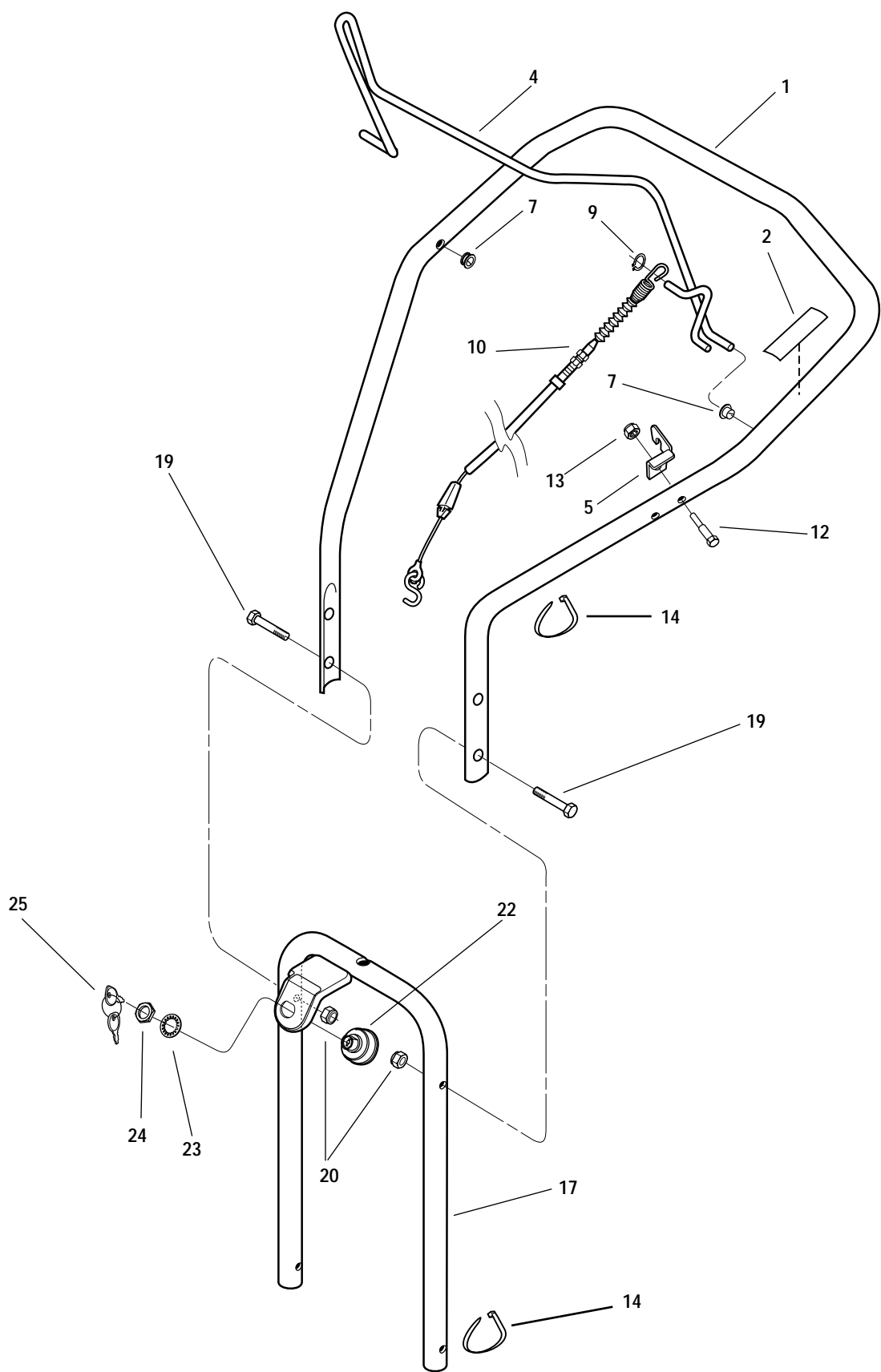
(A) Model 52051

(B) Model 52052

N/I Not included with unit, order separately

Trimmer/Mower Parts List

HANDLEBAR ASSEMBLY



Models 52051 and 52052

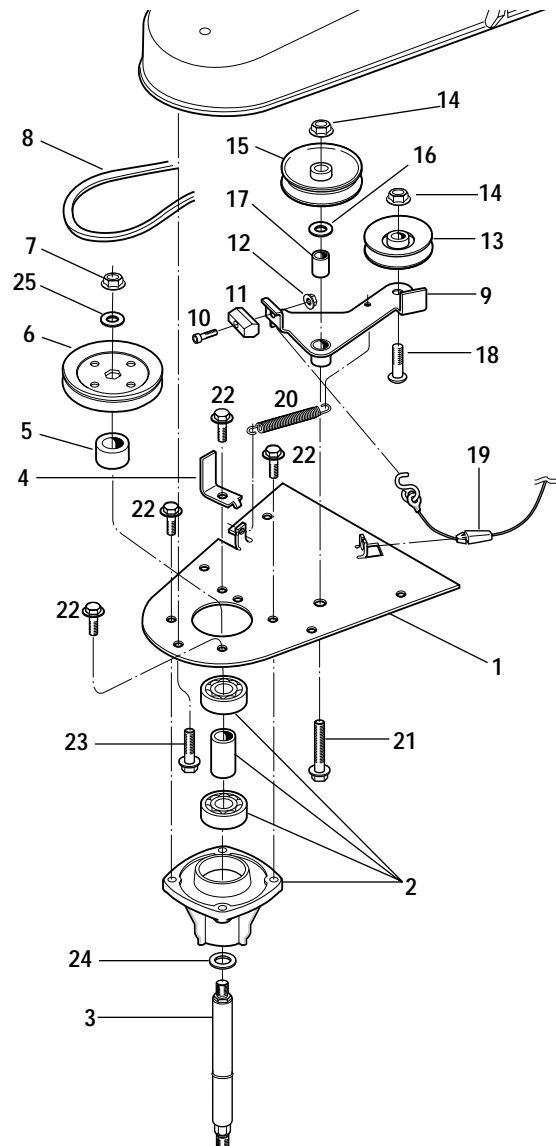
HANDLEBAR ASSEMBLY

Ref. #	Part #	Description	Qty.	Ref. #	Part #	Description	Qty.
1	1915963	Upper Handlebar w/decals	1	14	1763682	Cable Tie.....	2
2	1915889	Bail Decal	1	17	1910809001	Lower Handlebar (B)	1
3	----	Ref. No. Not Used			1910809001	Lower Handlebar (A)	1
4	1915270001	Bail	1	18	----	Ref. No. Not Used	
5	1749977001	Cable Bracket	1	19	1100799	Hex Hd Screw, 5/16-18 x 1-1/2, Gr. 5	2
6	----	Ref. No. Not Used		20	1732499	Lock Nut, 5/16-18	2
7	1908677	Nyliner Bushing.....	2	21	1904406	Decal - Keyswitch (B)	1
9	1908673	Retaining Ring, external .312 I.D.....	1	22	1900455	Ignition Switch (B)	1
10	1910852	Control Cable.....	1	23	1187950	Lockwasher, 5/8 (B)	1
11	----	Ref. No. Not Used		24	92018	Hex Nut, 5/8-32 (B)	1
12	1983658	Hex Hd Screw, 1/4-20 x 1-1/8.....	1	25	96520	Ignition Key (A)	1
13	1185814	Top Lock Nut, 1/4-20	1				

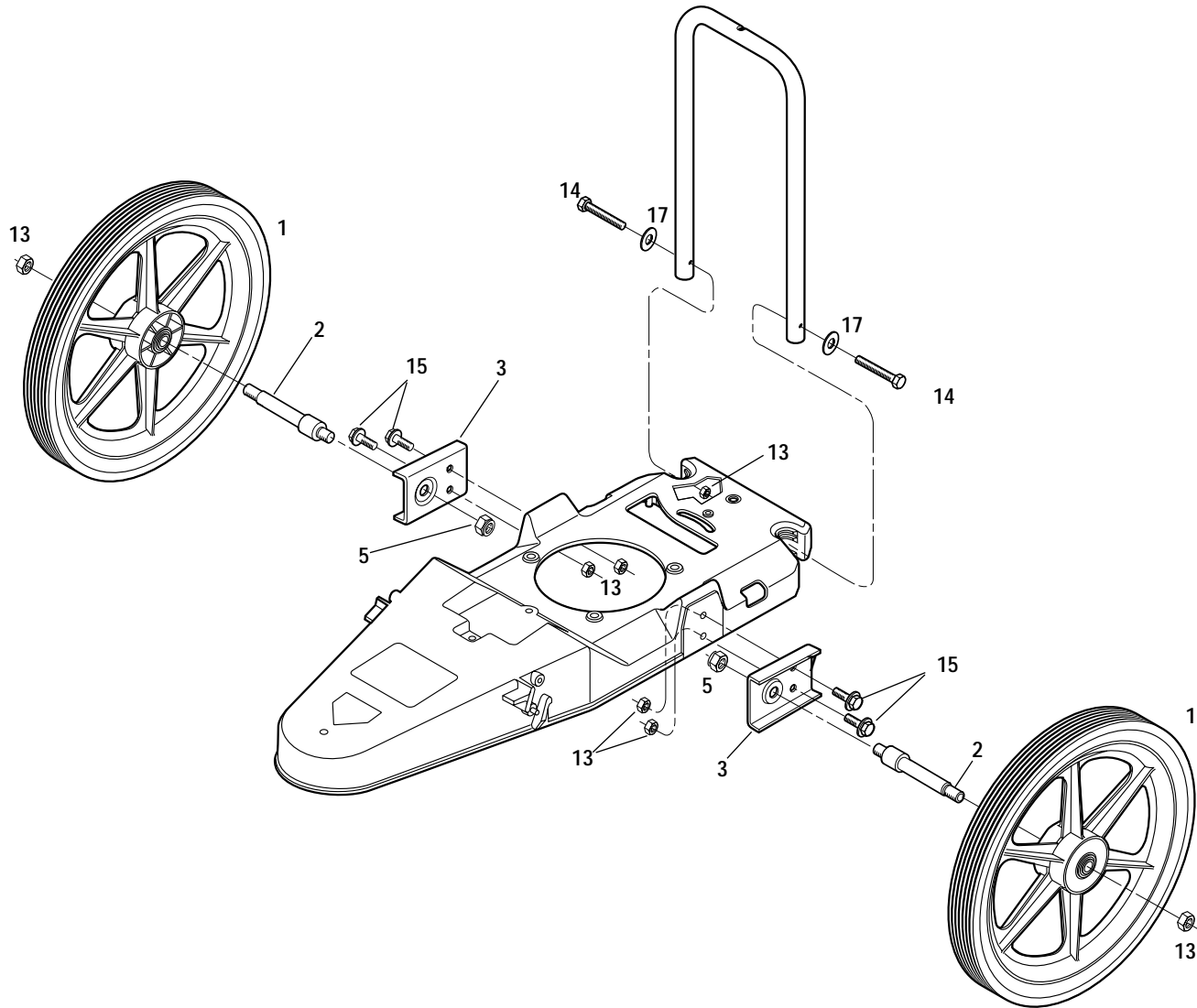
(A) Model 52051 (B) Model 52052

SPINDLE PLATE ASSEMBLY

Ref. #	Part #	Description	Qty.
1	1910850001	Spindle Mounting Plate	1
2	1910839	Spindle Assembly.....	1
3	1915477	Spindle Shaft Assembly (Incl. Ref. 25)...	1
4	1910860001	Belt Guide.....	1
5	1910856	Spindle Spacer	1
6	1910842	Spindle Pulley.....	1
7	1904308	Hex Flange Nut, 1/2-13.....	1
8	1915555	V-Belt	1
9	1904479	Idler Arm/Brake Shoe Assembly	1
10	1910859	Socket Hd Capscrew, 10-24 x 3/4	1
11	1910847	Brake Shoe	1
12	1983039	Hex Lock Nut, 10-24	1
13	1727978	V-Groove Idler Pulley	1
14	1186393	Hex Flange Nut, 3/8-16.....	2
15	1910855	Flat Idler Pulley.....	1
16	1915261	Washer, .88 x .382 x .275	1
17	1910854	Idler Arm Spacer	1
18	1910857	Button Head Screw, 3/8-16 x 1-1/2	1
19	1910852	Control Cable (also Ref. 13, Pg. 4)	1
20	1910849	Idler Tension Spring.....	1
21	1910858	Hex Flange Screw, 3/8 x 16 x 2-1/4.....	1
22	1909304	Hex Flange Screw, 5/16-18 x 3/4.....	4
23	90063	Hex Flange Screw, 5/16-18 x 1.....	5
24	9953	Hardened Shim, 3/4 ID x 1.022 OD x .060 thick.....	1
25	9928	Belleville Washer, 5/8	1



Trimmer/Mower Parts List



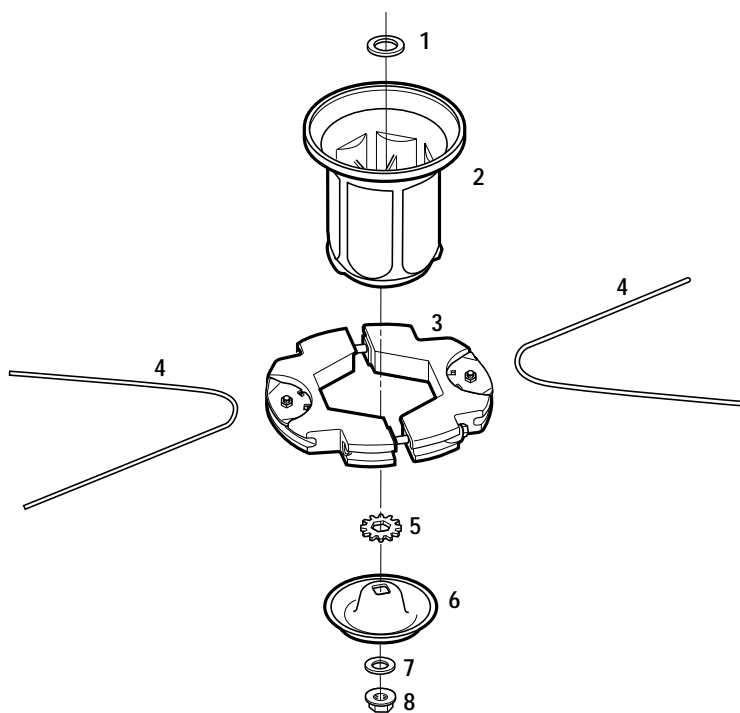
LOWER STEERING ASSEMBLY

Ref. #	Part #	Description	Qty.	Ref. #	Part #	Description	Qty.
1	1910823	Wheel - 6 spoke	2	14	1111606	Hex Head Bolt, 5/16-18 x 2	2
2	1915823	Wheel Stud.....	2	15	1186331	Hex Flange Screw, 5/16-18 x 1.....	4
3	1915824	Wheel Mounting Bracket	2	17	9901	Washer, 5/16 ID	2
5	1733398	Top Lock Nut, 3/8-16	2				
13	1744708	Hex Lock Nut, 5/16-18	8				

Models 52051 and 52052

TRIM HEAD ASSEMBLY

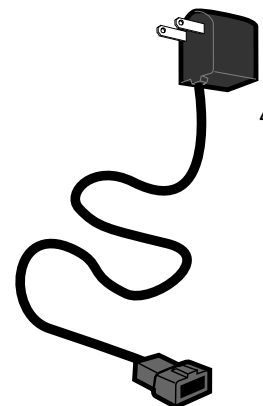
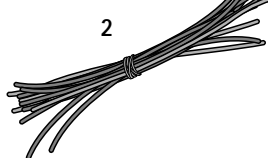
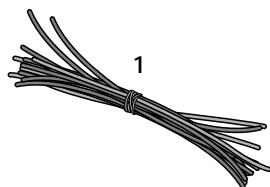
Ref. #	Part #	Description	Qty.
1	1910863	Shoulder Washer.....	1
2	1910861	Spindle Head	1
3	1915857	Trimmer Head	1
4	--	Trimmer String (see Ref. 1 and 2 below)	--
5	1910862	Hex Spline Washer	1
6	1915220001	Wear Cup	1
7	1915239	Washer	1
8	1904308	Hex Flange Nut, 1/2-13.....	1



ACCESSORIES AND KITS

Ref. #	Part #	Description	Qty.	Ref. #	Part #	Description	Qty.
1	1904476	Trimmer String Kit, .155" (includes 24 pieces).....	N/I	3	5003	Safety Goggles	1
2	1904477	Trimmer String Kit, .130" (includes 24 pieces).....	N/I	4	1768449	Battery Charger (Electric Start Model)....	1

N/I Not included with unit, order separately



CUSTOMER SERVICE INFORMATION

Owner Registration Card

Please fill out and mail the enclosed owner registration card. The purpose of this card is to register each unit at the factory in order to keep the owner informed with informational bulletins and safety literature.



Warranty Service

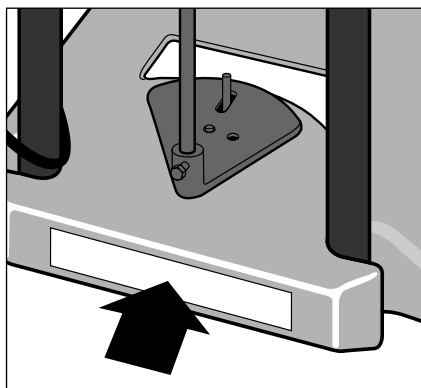
The warranty statement is included in the unit's literature package.

Model/Serial Numbers

A Model Number / Serial Number decal is located at the rear of the product (see figure below). For ready reference, record these numbers in the spaces below.

Date of purchase:

Model/Serial Numbers:



Look here for
Model/Serial
Numbers

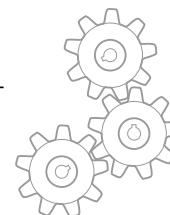
Customer Service and Technical Service

If you have questions or problems with the unit, contact your local dealer or call or write to the factory. (When calling or writing the factory, provide the model/serial number of the unit.)



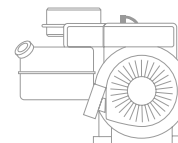
Replacement Parts

Factory specified replacement parts are available from your authorized dealer or directly from the factory.



Engine Service and Repair

For engine service or repair, contact your nearest authorized engine dealer (look in the Yellow Pages under "Engines—Gasoline"). The engine is warranted by the engine manufacturer. Any unauthorized work performed on the engine during the warranty period may void this warranty. For complete details on the engine warranty, refer to the engine owner manual.



Authorized Dealer Information

If you purchased your unit from an authorized dealer, record the dealer's address and phone number below for ready reference:

Dealer Name:

Address: _____

Phone: _____

For customer assistance, contact your nearest authorized dealer or:

GARDEN WAY INCORPORATED • 1 Garden Way • Troy, New York 12180

Customer Service: 1-800-437-8686 • Technical Service: 1-800-520-5520 • Parts Service: 1-800-648-6776

• FAX: (518) 391-7332

Outside the United States and Canada:

Customer Service: (518) 391-7007 • Technical Service: (518) 391-7008 • Parts Service: (518) 391-7006 • FAX (518) 391-7332